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Steering Committee of the Energy Efficiency 21 Project
Fourteenth session, 27-28 May 2003

DRAFT ENERGY EFFICIENCY 21 PROJECT FINANCING MECHANISM

(Note by the secretariat ^{1/})

Contents

	<u>Para</u>
INTRODUCTION	1
1. BACKGROUND	2-15
2. FINANCING MECHANISM PROPOSAL	16-22
3. FUND CONCEPT	23-24
4. FUND STRUCTURING ISSUES	25
4.1. Investment objectives and structures	26-36
4.1.1. Investment objectives	
4.1.2. Investment structures	
4.2. Capital structure and Fund size	37-42
4.2.1. Capital structure	
4.2.2. Potential Fund size	
4.3. Fund managers and investors	43-48
4.3.1. Management requirements	
4.3.2. Potential Fund investors	
4.4. Concessional and grant funding	49-51
4.4.1. Support for project development and appraisal	
4.4.2. Capital cost buy-downs	
4.4.3. Measurement of environmental benefits	

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INTRODUCTION

1. During its fourteenth session held on 27-28 May 2003, the Steering Committee of the Energy Efficiency 21 Project (EE21) requested the establishment of a financing mechanism or investment Fund to which investment project proposals resulting from the present phase of the EE21 Project and the new phase (2003-2006) could be submitted. The Steering Committee requested the Bureau and secretariat to prepare a Project Plan including a financing mechanism or Fund for submission to donors, co-financing partners or potential Fund participants. In response to these requests, the present paper has been prepared by Mr. Bernard Jamet, Chairman of the Ad Hoc Group of Experts on Financing Energy Efficiency Investment for Climate Change Mitigation, to explain the issues and describe the broad features of a financing mechanism or Fund likely to be most appropriate for the activities of the Energy Efficiency 21 Project.

1. BACKGROUND

2. Many emerging markets – developing countries as well as economies in transition² – are experiencing, or are expected to experience, rapid economic growth, industrialization and a strong commitment to improve the living standards of their citizens. This trend is not only projected to continue over the next 20 years but to further develop as new countries reach a critical stage of development. In this context, the supply of energy already constitutes a major bottleneck, and will continue to do so, preventing countries from achieving their growth objectives. In many emerging nations, the production, distribution and supply of electricity and heat is inadequate, unreliable, highly inefficient and polluting and often dependent on imported and costly fossil fuels.

3. This picture is compounded by a regulatory context which in many of these countries limits competition and encourages monopolistic practices. Some countries, for example, are overly dependent on a sole primary energy source, such as nuclear or coal. In addition, in terms of primary resources, some countries are wholly dependent on energy imports, priced in hard currency.

4. The rise in energy prices reflects the transition towards a market economy but this can result in economic dislocation and market failure. The consequence of this is a precipitous fall in production and hardship for both plant employees and customers. This is an issue of substantial political importance in many countries but most are seeking to address it. Until these energy problems are resolved, and a means of meeting the needs of these countries on a sustainable basis is established, the development of new prosperous market economies may be impossible to achieve.

5. Furthermore, even in most western European countries, the energy problem remains a key issue from a political and geopolitical point of view (for example, the security of energy supplies) as well as from an economic standpoint (the impact on the balance of payments).

6. There are two basic approaches to the energy problem: one is on the supply side, the other on the demand side. The traditional view is that the energy sector should address the energy problem principally from the supply side. The objectives of supply side solutions are

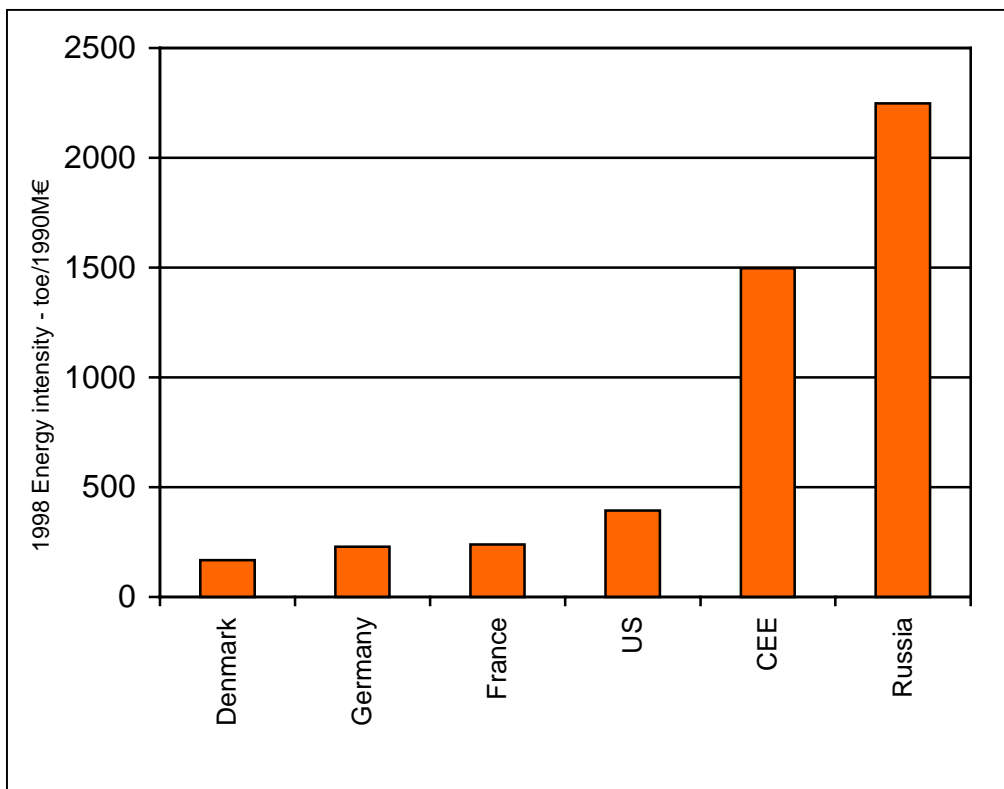
² Economies in transition are generally understood to comprise those countries in central and eastern Europe which were subject to central planning and communist rule before 1990; these include the former USSR, comprising today a number of independent countries that have created the Commonwealth of Independent States (CIS).

to replace existing infrastructure and to build new capacity to meet optimistically high growth projections.

7. Increasing capacity in order to achieve economies of scale largely ignores the inefficiencies on the demand side, i.e. the energy end-users. Demand side management, leading to a reduction of energy consumption, is strategically important since it reduces the need for investment in new power plants, new transmission capacity and energy imports. In the long term, energy efficiency investments on the demand side are a superior alternative since they save scarce capital, reduce fuel expenditure and other significant costs such as operational maintenance.

8. There is substantial scope in many countries to improve the efficiency with which energy is used, particularly in the developing world and the countries in economic transition. Figure 1. below compares, for instance, energy intensity in certain OECD countries and in countries of Central and Eastern Europe.

Figure1



9. Perhaps more critical than the issue of saving energy, itself a feature of the energy policies of every major country, is the pressing and fundamental challenge presented by global warming. While many economies in transition and developing countries may have other priorities, for most industrialised countries this is now regarded as the most serious of environmental problems. Scientists now acknowledge global warming as a verifiable phenomenon caused by the emission of "greenhouse gases", which must therefore be immediately and substantially reduced. These gases are produced through the combustion of fossil fuels and their derivatives, notably in the transport sector but generally in the production and consumption of energy. The reduction of hydrocarbon consumption is thus a global priority.

10. The Kyoto conference, held in December 1997, represented an important step in determining guidelines for measures to be taken to limit global warming by participating nations. There remain uncertainties as to the implementation of these measures, especially with regard to specific market mechanisms and the contents of the Kyoto Agreement itself, which is still to be ratified by a number of countries.

11. Nevertheless, important decisions already taken include the principle of individual responsibility of the so-called Annex 1 (industrialised) Countries and the creation of an international market for "tradable carbon emission permits". The conferences held subsequently in Buenos Aires (1998), Bonn (1999), The Hague (2000), Marrakech (2001) and in New Dehli (October 2002), were the fora for defining guidelines for these mechanisms. The development of innovative financial tools for their implementation is now an urgent necessity and it is in this context that the establishment of an energy efficiency and climate change fund should be understood.

12. International agencies, governments and multinational energy companies are already preparing plans of action : for example, the World Bank has introduced an initiative - the Prototype Carbon Fund.

13. While some doubts continue about the fate of the Kyoto Protocol, in particular in respect of participation of the United States, there is a growing probability that its ratification will take place within the next two or three years. If it does, a fully-fledged global carbon trading market will not be far behind. Even if it does not, the current exponential growth in trading activity is almost certainly set to continue on the back of the EU's own commitments (and especially the European trading market which is supposed to be set up in 2005) and the growing number of independent commitments in industry and the financial sector.

14. In addition to the growing relevance of the climate change challenge to the energy sector, there are other fundamental issues which are shaping the European market environment in a substantial and positive way for renewable energy, energy efficiency and cogeneration. These include :

- The growing concerns about security of energy supply, in particular in respect of natural gas. Eastern Europe relies to an increasing degree on natural gas imports from the Russian Federation and could become highly exposed to gas shortages or supply constraints unless greater energy self-sufficiency, through renewable energy, and efficiency is brought about.
- Local air pollution concerns, particularly in urban areas.
- The new EU indicative targets for renewable energy.
- Since the September 11 attacks in the United States, the organisation of energy systems has come under some scrutiny. Centralised systems of electricity delivery, a key feature of most of these systems, is highly vulnerable to disruption and/or destruction from natural or man-made causes. It has been determined that a small number of explosions at key transformer stations in western Europe could deprive the region of a substantial proportion of supply for several weeks. In contrast, a system based on greater use of renewable energy and decentralized cogeneration systems, combined with greater energy efficiency, would reduce this risk significantly.

15. In short, a whole raft of market and legislative drivers are, for the first time, moving the European and worldwide energy industries towards the accelerated use of clean energy systems. This is the underlying commercial logic of the proposed fund.

2. FINANCING MECHANIM PROPOSAL

16. The proposal is to develop a closed-end equity fund ("the Fund") which would make private sector investments in the energy efficiency, renewable energy and cogeneration industries in East European Countries. The investment objective is to achieve long term capital appreciation and income from direct equity participation in energy efficiency driven companies and projects. The Fund would differ from other supply side energy funds because energy efficiency and renewable energy projects have different risk/return profiles, transaction sizes, investment horizons and exit strategies when compared to classic fossil fuel based energy generation investments. It is expected the Fund will have the potential to mobilise investment capital from utilities, corporations, institutions and public sector agencies wishing to invest in profitable energy efficiency projects as well as to receive "carbon credits" for the reduction of greenhouse gas emissions. In this respect, it is anticipated that the clear link which the Fund will establish with the Flexible Mechanisms provided for by the Kyoto Protocol will lead to an additional source of revenue for the Fund through the sale of carbon credits in the future. However, since it is too early to count fully on this possibility in the absence of worldwide ratification of the Kyoto Protocol, the Fund is likely to use a more prudent approach, building first on normal and objective financial returns of the projects but looking also for investors that would have a vested interest in speculating on the gain of carbon credits.

17. More generally, the Fund will take advantage of the increasing interest shown by strategic Western investors in the energy efficiency and renewable energy field, including international energy firms, equipment suppliers, independent power producers, and energy service companies. The Fund will also seek to invest alongside such companies who wish to build a presence in the energy sector but prefer to share exposure with an experienced fund manager and other investors while focusing on specific energy efficiency and renewable energy transactions.

18. The crippling level of energy intensity which exists in various countries, including many East European ones, as well as the electricity shortages that a number of others are facing, offer an opportunity for high energy savings and good resulting returns. As an example, a recent study conducted by the International Finance Corporation (IFC) quantified the technical potential in Eastern Europe alone for profitable investments in projects with paybacks of less than five years as being between €5 and €10 billion. With energy market deregulation and the likelihood in many countries of important price increases, the business and engineering expertise to implement energy savings projects is on the increase in many parts of the world.

19. The Fund would target energy efficiency and renewable energy projects such as co-generation, boiler conversions, district heating rehabilitation, large building retrofits, public lighting, manufacturing, wind farms, biomass projects, etc. focusing on well-proven equipment and techniques which have simple payback periods ranging from 1 to 6 years. Typical investment size would be around €0.5 to €5 million, although both larger and smaller projects might be considered. The Fund will pursue direct investment in Energy Service Companies (ESCOs) or Third Party Financing Companies (TPFs) which bundle small to medium projects, as well as in medium to large sized projects on a stand alone basis. The Fund may finance owners and operators of combined heat and power (CHP) plants when such investments create sufficient repayment potential from energy savings to the end user. It will also look at local equipment manufacturers and financial intermediaries such as leasing companies which finance energy savings equipment.

20. The Fund will seek to make profitable investments in the energy efficiency and renewable energy sectors, of 4-6 years in duration, differentiating its investment profile from that of normal infrastructure or on-grid energy funds. The Fund will employ traditional exit strategies such as the sale of a portfolio company or a put to co-investors. Other exits are also possible, and as the carbon offset mechanism is developed into a system for trading emission reduction credits, the Fund may be able to sell shares to investors at a later date on the basis of carbon credits produced from energy efficiency and/or renewable energy investments.

21. The Fund will contribute to sustainable development by (a) enhancing the role of energy efficiency and renewable energy within the design of countries' energy policies and (b) increasing the participation of the private sector in the renewal of infrastructure.

22. Further considerations to be kept in mind regarding the Fund are as follows :

- By raising the efficiency of fuel combustion and related emissions to EU standards, the Fund will assist the Accession Countries in joining the EU. Reduced energy consumption improves municipal creditworthiness as well as the competitiveness of industry.
- The financing of ESCOs provides a commercial means to improve energy infrastructures without additional debt burden. The Fund will supplement the financial institutions' capability in the sector and will encourage the creation of public / private cooperation.
- Further, the establishment of a commercial vehicle which could facilitate the distribution of carbon credits through concrete investment could accelerate the establishment of global market for such credits.

3. FUND CONCEPT

23. Among various possible financing tools, that have been in existence for many years in various countries, for example third party financing, dedicated credit lines, guarantee funds, etc., the development of a closed-end equity fund ("the Fund") which would make private sector investments in the energy efficiency, renewable energy and cogeneration³ (also known as combined heat and power, CHP) sectors in the countries in transition of Central and Eastern Europe and the CIS, is an option to be considered and is the subject of the present proposal. The Fund should also have the potential to mobilize investment capital from public or private investors wishing to benefit from Joint Implementation credits arising from the reduction of CO₂ emissions.

24. Long established in western countries, energy efficiency projects, including cogeneration, are financed by the cash flow created by decreasing energy consumption for the end user. As Eastern Europe and the CIS are characterised by high energy intensity (per capita CO₂ emissions are 2.5 times higher than the global average) and rising prices, energy efficiency projects have even shorter pay-back periods in these countries. The Fund would enable its sponsors and investors to make small and medium-sized equity investments in companies and projects, selected on the basis of reasonable commercial returns.

³ High efficiency cogeneration systems supply both electricity and heating/cooling at the point of use. Projects can range in size from a few kWe to many hundreds of MWe. The larger projects can deliver significant energy and emissions savings and, where fuel and electricity prices are suitable, can be commercially attractive. The market opportunity for gas-fired cogeneration in Europe for the period to 2010 is around 85 GWe, according to the European Commission.

4. FUND STRUCTURING ISSUES

25. This section discusses basic design parameters for an Energy Efficiency and Climate Change Fund initiative, without prejudice to decisions that could be made by the Fund's lead investors and management team. Interrelated issues to be considered include :

- The Fund's investment objectives and geographical/sectoral scope of operations,
- Proposed investment instruments and capital structure,
- Management requirements and arrangements,
- The possible use of concessional and grant funds.

4.1. Investment objectives and structures

4.1.1. Investment objectives

26. The Fund's objectives are to achieve long term capital growth, dividend income, energy savings and greenhouse gas emissions reduction from a diversified portfolio of investments in entities engaged in :

- (i) Energy efficiency and renewable energy projects including within that concept :
 - the improvement of the efficiency of consumption, production and distribution of electricity or thermal energy, whether in new or retrofitted generating and co-generating facilities ;
 - energy service companies that supply energy conservation and efficiency equipment and services (ESCOs) ;
 - projects using renewable energy as a direct source of energy ;
 - on grid and off grid power projects that use renewable energy as a primary energy source located adjacent to or on industrial or commercial sites primarily for use by businesses located at such sites, and companies that develop such projects ;
 - distribution and transmission systems ;
 - district heating infrastructure ;
 - public lighting projects ;
 - large building retrofits ;
 - energy intensive industrial processes, or other such projects and facilities, to accomplish the objective of improving energy efficiency ; and

(ii) Environmental emission reduction, including the reduction of air contaminants, with a primary focus on the reduction of gases which cause global climate change.

4.1.2. Investment Structures

Investments may include:

- the purchase of common or preferred shares of new companies, the formation of partnerships or joint ventures,
- the purchase of equity or partnership or joint venture interests through capital contributions to existing companies,

- the purchase of existing equity or partnership or joint venture interests, to the extent necessary to facilitate the Fund's Investment or to improve its quality,
- the formation of and investment in consortia which may be organized as partnerships or companies,
- the formation of or investment in energy companies to bundle small to medium-sized projects, and
- investments structured as senior or subordinated debt with conversion rights, warrants, or other aspects designed to improve returns appropriate for equity type investments.

27. An Energy Efficiency, Renewable Energy and Climate Change Equity Fund should have three goals : (a) to achieve commercial success, (b) to select investments that help broaden the market for commercial financing of the renewable energy (RE), energy efficiency (EE) and CHP sectors, and (c) to facilitate the development of projects that are able to generate carbon credits.

4.1.2.1. Commercial Success

28. Both potential private and public sector participants in the RE, EE and CHP markets are expecting such a Fund to operate on a strictly commercial basis so as to provide an attractive or, at least, an acceptable rate of return for its investors. This will allow the Fund to obtain funding from private commercial sources alongside public institutional investors such as international financial institutions (IFIs) or national public organisations. Commercial success will also justify the case for much greater commercial investment in follow-up initiatives - the greatest contribution that the Fund can make in furthering the greenhouse gas mitigation and broader development objectives of the international community.

29. It is not easy to estimate the profitability of an equity fund investing in unlisted companies until capital gains start to be realized, a process that typically begins within 5 to 7 years of start-up. In the case of such a Fund, it could take even longer, for reasons explained hereafter. Although an RE/EE Fund will earn a current yield, commercial success in the early years will be measured primarily in terms of (a) the rate of investment, (b) the qualitative aspects of the portfolio, including the mix of projects, sponsors, co-investors, clients and markets served and (c) the follow-up activity of the management team, investors and other market participants.

30. The Fund must seek to invest quickly in a number of high-quality projects, not only to send a positive signal to the market, but also to shorten the time frame within which proceeds from the portfolio (as opposed to Fund capital) will begin covering management expenses. In the present very encouraging market and legislative context, and taking into account the positive progress made by some other financing vehicles in recent years, it is reasonable to think that it should be easy to identify a significant pipeline of such projects under development. At the same time, there is obviously limited competition among sources of financing, which makes this objective readily achievable.

31. A diversified portfolio is also an important sign of success. Within the bounds of accepted prudent guidelines, strong portfolio concentration may suggest that management is overlooking important opportunities, some of which may be difficult to structure initially but which may offer significant expansion, leveraging and capital appreciation potential.

32. Finally, a successful track record would enable the Fund management team to mobilize additional capital from a broader range of investors and further diversify its investment activity and the value-added that it is providing in the market.

4.1.2.2. Sectoral coverage

33. It is usual to establish a distinction between on-grid RE, off-grid RE and EE projects. Investing in these sub-sectors calls for a wide range of investment instruments and management skills. The principal issue is whether these resources might best be combined in a single structure, or whether separate funds or sub-funds should be considered.
34. If separate structures are to be established, possible options include the following :
- Divide the sectors according to primary types of financing required, by combining on-grid RE and larger stand-alone EE projects on the one hand, and off-grid RE and EE project portfolios on the other. This approach would recognize that the first two sub-sectors primarily involve traditional project financing techniques that best fit the profile of an equity and quasi-equity investment fund, while the latter two involve service businesses that often require a high degree of internal or external leverage from sources of debt or lease financing, calling for a different set of investment skills.
 - The second option would separate along RE and EE lines. This approach might facilitate relationships with similar project sponsors and co-investors (such as managers of targeted RE or EE credit facilities funded by donor agencies). It would also have the advantage of combining larger and smaller projects on each side.
 - An intermediate option that might be considered is to begin with an integrated fund but plan to expand the initiative along sector lines. For example, some of the equity capital of the first Fund could be allocated to establish a stand-alone EE fund once a sufficient pipeline has been developed.
35. In reality, however, there are compelling reasons to combine the three sub-sectors in a single Fund :
- An integrated approach would maximize the potential size and flexibility of the Fund by combining the larger, well known and concentrated on-grid RE sub-sector with the more dispersed off-grid RE and EE projects.
 - A larger Fund size would increase the resources available for bringing together (possibly on a phased basis) the diverse financing and technical skills needed to address the needs of the three sub-sectors, with potentially lower overhead costs. An integrated approach would also allow advantage to be taken of the expected high financial returns of RE projects due to the incentives currently put in place by governments and to include in the project portfolio EE projects that may sometimes have lower returns.
 - A combined fund would focus more attention on the growth potential that exists in all three sectors if certain common challenges can be met, especially the smaller project sizes, insufficient familiarity among prospective clients and financiers, and country and credit risk issues.
 - The integrated approach could take advantage of direct synergies between the RE and EE sectors. For example, a number of utilities and independent power producers with an interest in renewable energy also have captive ESCO subsidiaries and could propose projects in both areas. Individual projects can combine RE and EE components, such as the use of energy efficient lamps in solar PV systems, the significant energy and process efficiencies gained in biomass cogeneration projects, or the potential for combining demand-side EE components into new power projects.

- An integrated Fund could also have a greater impact in terms of focusing attention on the complementary environmental and social benefits of the RE and EE sectors : for example, reduced greenhouse gas (GHG) emissions, use of waste products, reduced dependence on imported fuels and more efficient and cheap energy for rural populations. This focus may help mobilize commercial financing for the Fund from "social investors" as well as direct and indirect public sector support for the Fund's investee companies.

4.1.2.3. Geographical coverage

36. The idea is to cover all countries of Central and Eastern Europe and the CIS where, because in particular of the previous phases of EE21 a strong concentration of deal flow to date can be expected , especially for energy efficiency projects, allowing for the more opportunistic pursuit of high quality projects. In addition, experience suggests that particularly deep knowledge of local conditions (the energy situation, regulatory framework, tariff policy, billing practice, cash collection, etc) is required to bring RE and EE projects to financial closing, to provide ongoing support and to monitor their performance. This background has also been provided by the work performed during the last years under EE21 and predecessor programmes.

4.2. Capital structure and Fund size

4.2.1. Capital structure

37. Three options might be considered:

- **A traditional closed-end equity fund providing equity and quasi-equity financing and seeking to liquidate its portfolio within a specified period of time (e.g. 10 to 15 years).**

Such a fund is likely to be relatively more oriented towards the on-grid RE sector as well as the opportunities to be found in the EE sub-sector, focusing on large end users, local RE/EE equipment manufacturers, and the increasing number of mini-utilities and ESCOs that are prepared to invest significant capital in the permanent ownership of systems and/or in the direct provision of term financing to end users.

In all of these sectors, the Fund management team is likely to be called upon to provide considerable advisory support to prospective investees to mobilize debt financing from other sources.

- **A closed-end equity fund conservatively leveraged (e.g. 1:1 or 2:1) by a dedicated debt facility, capable of providing both equity/quasi-equity and senior debt financing**

Such a fund would have access to a broader deal flow by being able to address the primary financing requirement of the majority of off-grid RE and EE businesses, namely debt/lease financing for system purchasers and energy end users. The Fund could either (a) assume the credit risk directly (with the project sponsor and/or a financial intermediary acting as its agent for the placement and collection of sub-loans), (b) provide a dedicated credit line on the (highly-leveraged) balance sheet of the sponsor or a financial institution, or (c) co-invest along with other lenders in a special purpose loan or lease fund designed to support the project sponsor.

Such a fund could also provide a reasonable portion of the longer-term debt financing required by on-grid RE projects, mini-utilities and ESCOs directly engaging in equipment/sub-project finance. This could facilitate the mobilization of the balance of

the debt financing they require from other financial institutions, whereby the Fund would play a syndicating role.

The debt funding could be developed in two ways :

- incorporated within the corpus of the equity fund by issuing blended funding instruments (i.e. one investment unit purchased by a single investor includes both an equity and a debt portion, to be paid in on a pro rata basis as investment commitments are drawn down), or
- established as a stand-alone facility (i.e. equity and debt participations are sold separately).

The latter option would typically provide greater flexibility as to debt draw-down and repayment provisions. A stand-alone debt facility would also facilitate the marketing of the equity and debt participations to a wider range of potential investors (who may be interested in one but not the other and who may be able to offer different pricing and maturity structures).

As far as the repayment is concerned, the debt could be extended either :

- on the full faith and credit of the equity fund as the "borrower"; or
- on a project-by-project basis with limited or no recourse to the equity-funded portion of the portfolio.

The first option would facilitate the raising of commercial funding on the basis of a prudent (between 1:1 and 1:2) ratio between the equity fund and debt facility. It is also more likely to minimize conflicts of interest, to the extent that the Fund would be the borrower and that the distribution of portfolio proceeds to equity fund investors could be subordinated in some fashion to the servicing and repayment of the debt facility (for example through a sinking fund requirement and/or an obligation to pass through principal repayments).

Under the second option (an "agency line"), debt funding sources are likely to require a greater oversight role and/or direct credit authority.

- **A capital corporation with an unlimited life and a higher degree of leverage**

This option would offer the most flexibility in terms of the range of debt funding and debt/lease financing options available. A variety of shorter – and longer – term credit facilities could be mobilised to better accommodate the different maturity structures required by different types of projects (e.g. revolving finance for off-grid RE/EE portfolios vs. long-term finance for on-grid RE, mini-utilities and large EE projects). Such an entity would also be better-equipped to provide sector-wide (as opposed to sponsor-specific) credit lines to local financial intermediaries.

A capital corporation would place less emphasis on equity financing, as its capital would be used primarily to support the higher degree of leverage.

38. In summary, the first option is the one most familiar to institutional investors and fund managers, but may have difficulty securing adequate deal flow, given the debt financing constraints in the target sectors. The second option would provide greater flexibility, while still maintaining an equity-led investment at focus. The third option would place the greatest emphasis on providing medium-and-long-term debt financing, both to projects and to local financial intermediaries. These last two options raise the issue of setting up the debt portion which is usually complicated by the level of guarantee which the banks will demand.

4.2.2. Potential fund size

39. The two major reference points normally used to determine the target size of an investment fund are the market's size and ability to absorb committed capital, and estimated management costs.

4.2.2.1. Market

40. A €100-150 million Fund would represent a conservative 2-3% of the estimated effective demand for capital in the RE and EE sectors over the next five years. Within this range, the size of the Fund will largely be a function of whether it is established as an equity investment fund only, or whether debt resources and financing capabilities are also incorporated.

41. It is believed that at least €-€ billion might be invested globally in private sector RE and EE projects during the next five years if suitable financing is available. A dedicated Fund could reasonably be expected to provide at least 2% (€100-€120 million) and up to 10% (€500-€600 million) of the projected financing. The bases for such estimates include the following :

- **Market share** : the establishment of an Energy Efficiency, Renewable Energy and Climate Change Fund would not be the first wide-ranging initiative of its kind but there is still very little competition at the moment and therefore the Fund should have the opportunity to review a high percentage of the projects that will reach financial closing.
- **Percentage of project costs** : an Energy Efficiency and Climate Change Fund might be expected to finance an average of about 25% of project costs, within a range of 15-50%. The investment guidelines to be developed by the lead investors and management team may provide for an even higher percentage of financing in selected cases, such as debt/lease finance facilities for ESCO project portfolios (where 100% debt financing may be needed, even if co-lenders are also involved).
- **Transaction size** : the upper size range of projects the Fund could consider "eligible" can be set at €10 million. The higher end of target Fund sizes may be justified if it is assumed that the Fund will support projects in the higher end of this range.

4.2.2.2. Management costs

42. Prospective management costs are the other chief determinant of Fund size. Management is normally compensated by an annual fee representing a percentage of the committed capital of a fund (typically 2-3% of the equity portion and a lower percentage of debt resources), together with some form of incentive compensation based on the results of the portfolio (usually 20 % of the "carried interest", the portion of the return above a certain threshold called the "hurdle"). A €100-200 million fund (or set of sub-funds) would therefore sustain an annual operating budget in the €2-3 million range. Concessional and grant funds could also be used to support the incremental costs of pursuing smaller and/or more complex projects in a wider range of countries than would normally be considered.

4.3. Fund manager and investors

4.3.1. Management requirements

43. A broad range of skills must be brought together, whether within the Fund itself or through relationships with other active parties, to address the investment needs of the RE and EE sectors :

- Investment instruments : equity and quasi-equity; medium-term/revolving loans or leases ; long-term debt.
 - Sector knowledge : small-and-medium-sized RE private power projects, RE and EE manufacturing and distribution companies, energy services contractors, cogeneration issues.
 - Geographical experience : both in industrialised regions such as the European Union, countries in transition such as Central and Eastern Europe and developing countries.
 - Fund-raising capability : the quality of the Fund management team is likely to be a key selling point in raising capital for the Fund, and members of this team may be key participants in the mobilisation process.
44. Particular emphasis has to be placed on ways to mitigate the proportionally higher costs of developing and managing a portfolio of small-and-medium-sized projects, including the following :
- investing in companies with multiple projects under development : in this respect, the role of ESCOs is particularly important ;
 - considering opportunities to finance smaller projects on an equity-only basis, to be subsequently pooled together and refinanced with appropriate debt resources ;
 - developing standardised approaches to due diligence activities, legal documentation and other elements of the investment process ;
 - developing alliances with local financial institutions and advisors, as well as with international agencies and non-profit entities providing support for private sector project development ;
 - establishing in-house debt-financing capabilities and/or pre-agreed co-financing arrangements with independent lenders ; and
 - judicious use of concessional and grant resources that might be available to support the Fund initiative.

45. In all cases, management would operate under financial and environmental investment guidelines adopted by the Fund's lead investors, and investment decisions would be made by an appropriate Investment Committee. An advisory board could also be created to provide guidance on investment issues and on the use of concessional and grant funds that may be available for designated purposes.

46. In addition to normal prudential guidelines followed by investment funds, the Fund would apply rigorous environmental screening and monitoring procedures in its investment activities.

4.3.2. Potential fund investors

47. Investors may include :

- (a) strategic investors with investment and operating experience in the energy industry and possibly in the RE and/or EE and cogeneration sectors,
- (b) insurance company affiliates, socially-oriented investment funds and other institutional investors who have been examining or already investing in these sectors, both on their financial merits and as a means to demonstrate their commitment to reducing global warming, and

- (c) similarly motivated multilateral and bilateral investment agencies, such as the European Investment Bank (EIB), the European Investment Fund (EIF), the European Bank for Reconstruction and Development (EBRD) or others.

48. A successful fund-raising effort will recognise that the various types of investors have different interests and objectives. Decisions with respect to the Fund's proposed investment strategy and its organisational and capital structure will have to be carefully tailored in order to accurately anticipate the response of these different classes of investors and thereby generate the desired mix of resources.

4.4. Concessional and grant funds

49. Whether implemented through the Energy Efficiency 21 Project, by the Fund or provided directly by donors, these might include the following :

4.4.1. Support for project development and appraisal

- Grants to augment the operating budget and due diligence capabilities of the fund management team to enable it to consider a wider range of projects and countries ;
- Grants to support project developers in their structuring efforts - especially for smaller projects that are likely to be replicated and/or expanded by the sponsor group when this is the only instrument that can ensure an adequate rate of return on total project costs ;
- Loans for project developers, preferably at market rates but with repayment terms that can be readily supported by the project's prospective cash flow. Such loans may be convertible to grants in case a project fails to proceed to financing and implementation;
- Equity investment in project development companies or for development-stage projects, as an alternative to grants or concessional loans, and a means to strengthen a project's prospective debt : equity ratio.

4.4.2. Capital cost buy-downs

50. Grant funds may also be used in exceptional cases to directly reduce the capital costs of projects in promising new market segments and/or technology areas. This support could be provided on a grant basis, for the purposes of improving marginal rates of return that might otherwise prevent the project sponsors and other commercial investors or lenders from proceeding.

4.4.3. Measurement of environmental benefits

51. The Fund's portfolio can serve as a proving ground for techniques to measure, register, monitor and verify the GHG-reduction impact and other environmental benefits of specific RE and EE projects. Participation by investor companies in such a program could be a condition of investment by the Fund. However, the detailed design and management of the program and the provision of technical assistance could be funded largely by grants from multilateral and bilateral agencies seeking to develop further information on the costs and benefits of such measures.